

## MATTERS ARISING

### The falling accuracy of microscopy in the diagnosis of gonorrhoea—a cause for concern?

Dr J K Evans and colleagues recently reported on the results of an audit into the value of microscopy in the diagnosis of gonorrhoea at first visit to a major London genitourinary medicine (GUM) clinic and illustrated the problems of the interpretation of the Gram-stained smear.<sup>1</sup> Although the detection rate for gonorrhoea in male urethral specimens had a sensitivity of 89%, they demonstrated a significant decrease in the sensitivity of microscopy of endocervical smears for diagnosing gonorrhoea in women (29% in 1991, 70% in 1973) within their unit.<sup>2</sup> Furthermore, they observed a drop in the sensitivity of the Gram-stained urethral smear for the detection of gonorrhoea in men from 89% to 76% on re-auditing which suggests that there may be a problem with smear interpretation.

We recently assessed the value of microscopy in the diagnosis of culture-proven gonococcal infection in heterosexual men and women attending our GUM clinic over a one year period commencing in March 1992. The urethral smear in men detected 179 (89%) of 202 cases of culture-positive gonorrhoea. In total, Gram-stained smears for 141 women with culture-positive gonorrhoea were analysed. The endocervical smear detected 52% of 126 female patients with positive endocervical cultures and 40% of 101 female patients with positive urethral cultures. A combination of urethral and endocervical smear screening allowed 53% of all female patients with culture positive gonorrhoea to be diagnosed at first visit. The "blind swab" rectal smear detected only one of 25 female patients with culture-positive rectal gonorrhoea. Three patients (2%) had *N gonorrhoeae* isolated from the rectal site alone. Rectal site sampling is probably not a useful exercise except in patients at high risk of having gonorrhoea, such as contacts of known cases, and would merit further evaluation as the prevalence of gonorrhoea continues to fall in the United Kingdom. Proctoscopy has been shown to increase the sensitivity of anorectal smears in the evaluation of symptomatic male patients at risk of gonorrhoea compared to a blind swab technique<sup>3</sup> although the sensitivity of culture is not improved.<sup>4</sup> However, this method of rectal sampling may be unacceptable to female patients.

In large GUM clinics, where there is a continual change-over of personnel, it is essential that training should be given to new staff in the methods of specimen collection during the clinical examination. Meaningful and accurate laboratory results are dependant on obtaining good clinical specimens and poor sampling technique decreases the sensitivity of microscopy for the diagnosis of gonorrhoea.<sup>5</sup> At our GUM clinic, the cervix is wiped with a large cotton-tipped Rolon swab before material is obtained with a 10 µl loop from the endocervix for Gram staining and culture. Dr Evans and colleagues did observe a non-

significant improvement in the sensitivity of endocervical smears adopting a similar approach.

Re-reading original slides in "slide negative" but culture positive cases is essential as these often represent the most difficult slides to interpret. Dr Evans' letter demonstrated that re-reading of "negative" slides by an experienced microbiologist in a non-clinic setting showed 64% were wrongly reported initially. This means storage facilities should be available to keep all patient slides for at least a week. Good communication between doctors and microscopists is essential to highlight which slides are most likely to be positive to allow more time for selective slide-reading.

It is well recognised that the performance of any microbiological test decreases when the prevalence rate of the corresponding disease diminishes. The decreasing prevalence of gonorrhoea in the UK places even greater difficulty in ensuring that accuracy in slide-reading is kept at acceptable levels. A combination of continual staff training, regular audit of microscopy and collaboration between microbiology and GUM clinic staff with checking of presumptive negative and positive slides against culture results is mandatory if a high diagnostic standard is to be achieved.

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- 1 Evans JK, Mercey DE, French PD, Prince MV. Audit of diagnosis of gonorrhoea at first visit to a London genitourinary medicine clinic. *Genitourin Med* 1994;70:291-2.
- 2 Rothenberg RB, Simon R, Chipperfield E, Catterall D. Efficacy of selected diagnostic tests for sexually transmitted diseases. *JAMA* 1976;235:49-51.
- 3 William DC, Felman YM, Riccardi NB. The utility of anoscopy in the rapid diagnosis of symptomatic anorectal gonorrhoea in men. *Sex Trans Dis* 1981;8:16-17.
- 4 Deheragoda P. Diagnosis of rectal gonorrhoea by blind anorectal swabs compared with direct vision swabs taken via a proctoscope. *Br J Venereal Dis* 1977;53:311.
- 5 Goodhart ME, Ogden J, Zaidi AA, Kraus SJ. Factors affecting the performance of smear and culture tests for the detection of *N gonorrhoeae*. *Sex Transm Dis* 1982;9:63-9.

### Kaposi sarcoma in Germany

Albrecht *et al*'s report of cases of Kaposi's sarcoma (KS) in HIV-infected women provides further circumstantial evidence, from the western hemisphere, for a putative sexually transmissible aetiological agent of KS.<sup>1</sup> Unlike previous reports which were based on data from homosexual men,<sup>2-4</sup> their's suggests that the agent could be transmitted heterosexually and, therefore, lends itself to comparison with experience from some parts of Africa where KS and HIV infection are both common in heterosexuals, separately and concurrently. Moreover, they imply that two of their patients, who were of African origin and had recently come from there, could have acquired the KS agent from Africa.

One of us<sup>5</sup> has previously pointed out that the epidemiology of KS in Africa is not

consistent with a sexually transmissible aetiology as suggested by Albrecht *et al*<sup>1</sup> and other studies from western countries.<sup>2,3,4,6</sup> We find the evidence for sexually transmissible aetiology generated from Western data quite appealing; and the disparity with African data very intriguing. It has been suggested that the fact that the African countries with a high incidence of HIV infection generally also have high incidence of KS; and that patients with AIDS-related KS and those with non-AIDS KS have comparable high risk factors for sexually transmitted infections, argue for a putative sexually transmissible aetiology for KS.<sup>7</sup> However, the lack of concordance for KS among couples with AIDS-related and non-AIDS KS in Ugandan<sup>7</sup> and Zambian<sup>8</sup> cohorts suggests a sexually transmissible aetiology is either unlikely or inefficient for reasons yet unknown. In addition, the occurrence of KS in sexually inactive African children<sup>7,9</sup> casts further doubt on the importance of a sexually transmissible agent, at least in Africa.

We agree with Albrecht *et al* on the need for further studies of HIV-related KS in women. In addition, detailed studies of KS in other subgroups where its incidence is high could also yield useful insights into the aetiology of this enigmatic disease.

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- 1 Albrecht A, Helm EB, Plettenberg A, *et al*. Kaposi's Sarcoma in Germany: more evidence for sexual transmission. A report of 10 cases and review of the literature. *Genitourin Med* 1994;70:394-8.
- 2 Beral V, Peterman Ta, Berkelman RL, Jaffe HW. Kaposi's sarcoma among persons with AIDS: a sexually transmitted disease? *Lancet* 1990;335:123-8.
- 3 Elford J, McDonald A, Kaldor J, *et al*. Kaposi's sarcoma as a sexually transmissible infection: an analysis of Australian AIDS surveillance data. *AIDS* 1993;7:1667-71.
- 4 Beral V, Bull D, Jaffe H, *et al*. Is risk of Kaposi's sarcoma in AIDS patients in Britain increased if sexual partners came from United States or Africa? *BMJ* 1991;302:624-5.
- 5 Matondo P. Kaposi's sarcoma epidemiology. *Lancet* 1992;339:939.
- 6 Kaldor JM, Tindall B, Williamson P, Elford J, Cooper A. Factors associated with Kaposi's Sarcoma in a cohort of homosexual and bisexual men. *J Acquir Immune Defic Syndr* 1993;6:1145-9.
- 7 Desmond-Hellman SD, Katongole-Mbidde E. Kaposi's sarcoma: recent developments. *AIDS* 1991;5(suppl 1):S135-42.
- 8 Bayley AC. Occurrence, clinical behaviour and management of Kaposi's sarcoma in Zambia. *Cancer Surveys* 1991;10:53-71.
- 9 Slavin G, Cameron H McD, Forbes C, Mitchell RM. Kaposi's sarcoma in East African children: a report of 51 cases. *J Pathol* 1970;100:187-99.